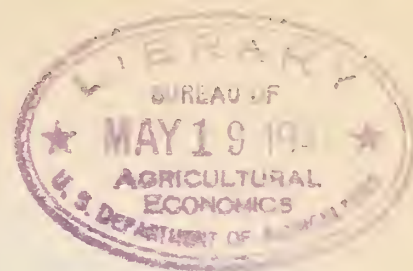


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

U S DEPT OF AGRICULTURE
BUREAU OF AGR'L ECONOMICS LIBRARY
4-K WASHINGTON D C



A.M.S.

Marketing Activities

Issued Monthly by

**AGRICULTURAL
MARKETING
SERVICE**

U. S. DEPARTMENT OF AGRICULTURE

Vol. 4 No. 5
May 1941

-IN THIS ISSUE-

THE EGG-DRYING PLANTS

SIZE UP HUMPTY DUMPTY

By H. L. Shrader.....Page 3

Food is as important to the democracies as ammunition. Mr. Shrader, Extension Service poultry husbandman, shows how the United States is in a position to export eggs to Great Britain despite adverse conditions in the North Atlantic.

HAY TAKES A PLACE AMONG THE LEADERS

By E. O. Pollock.....Page 7

We were surprised, too, at the important place hay occupies in our national farm economy. Mr. Pollock, Agricultural Marketing Service specialist, goes on to point out some important trends in the hay industry.

MARKETING AND NATIONAL DEFENSE PROBLEMS

STUDIED BY FEDERAL AND STATE OFFICIALS

By J. R. Cavanagh.....Page 11

State and Federal marketing officials get together occasionally to trade ideas. As might be expected, the latest meeting of representatives from the Atlantic States region was given over to a discussion of marketing under the national defense program. J. R. Cavanagh, our roving reporter, sat in on the sessions.

MAPLE SIRUP TIME IN MARYLAND

By C. E. Burkhead.....Page 14

Maryland's maple sugar industry, scarcely a drop in the Nation's bucket, has changed very little since colonial days. Mr. Burkhead, in charge of crop reporting work for the Agricultural Marketing Service in Delaware and Maryland, has captured the atmosphere of the sugar maple region -- a little world all to itself. That alone made his article interesting to us.

ON THE MARKETING FRONT

Scraps of marketing information from here and there.....Page 17

THE EGG-DRYING PLANTS SIZE UP HUMPTY DUMPTY

. By H. L. Shrader
Extension Service

Poultry specialists have known for a long time that fresh eggs, the kind you like for breakfast, are about 75 percent water. That fact has never seemed very important, for eggs are just about tops in nutritive value. But now that the U. S. has launched a program to supply eggs to Great Britain under the Lease-Lend Act, the high moisture content of this product is being given more consideration by the experts at the Department of Agriculture. Not only does water make up a large part of the bulk and weight of eggs; it contributes to their perishability. Considering the scarcity of ships, particularly ships with refrigerating equipment, the exportation of fresh eggs in large quantities presents a real difficulty.

So it looks as if the Nation's egg-drying plants were in for a banner year. Using modern sanitary techniques, these plants will remove the water from eggs--a whole lot of eggs--and fit them for their long zig-zag voyage across the North Atlantic. Then, in a British kitchen or commissary, water will be added to the egg powder and the reconstituted product will be ready for certain uses.

Dried eggs have been used in the baking industry for many years, though some of the products, such as meringue for pies, are not particularly essential during a war emergency. However, for use in yellow cakes, doughnuts, pancake flours, and noodles, the dried product is admirably adapted, and dried whole eggs can be used for omelets or for scrambling. The reconstituted powder does not regain the texture of fresh eggs, of course, but it is more palatable than might be imagined. In any event, the British are not insisting on strictly fresh eggs these days.

Manufacturing Processes Are Simple

The manufacturing process for producing dried whole eggs is relatively simple. The eggs, after chilling, are sent to a breaking room where workers, generally women, break the eggs by striking them against a knife, the blunt end of which is standing upright. The egg is pulled apart from the underside (homemakers please note) and the shell is held poised for a few seconds in order for the white to drain. Not over three eggs are broken in one small cup; then they are examined to detect any musty or foreign odors. If the contents of the cup do not appear to be wholesome, all three eggs are discarded.

The liquid eggs that pass inspection are placed in a large vat and churned to a smooth homogeneous mixture. Then this mixture is forced by powerful pumps through fine nozzles, under pressure of 1,500 to 3,000 pounds per square inch, into a high-ceilinged, conical chamber.

kept at a temperature of 160 to 220 degrees F. The air in the drying chamber is brought in through a filter and is circulated rapidly by a blower. The liquid egg spraying from the nozzles is almost instantly dried as it hits the heated air, the dried product falling down the steeply sloping sides of the chamber in the form of a flour-like powder. In recent years this method has been used almost exclusively for drying whole egg and yolk.

A standard-size case of fresh whole eggs containing 30 dozen weighs about 45 pounds net, but when the shell and water are removed that weight reduces to 10 pounds of dried whole egg powder. The dehydrated product is usually packed in barrels holding 200 pounds net, so one barrel of the dehydrated product is equivalent to 20 cases of fresh eggs--a real bundle for Britain. Dried whole eggs can be held in normal dry storage without refrigeration for relatively long periods, the only precaution necessary being that of keeping them in a moisture- and vapor-proof package.

Patents Sought In 1865

The problem of reducing the bulk and perishability of eggs in this manner was explored as early as 1865 when patents were sought by various inventors of drying processes. Charles A. LaMont was probably the first inventor of such a process, but there is no record of his actually operating an egg-drying plant until about 1878. In spite of the optimism expressed for this new form of eggs, drying continued only on a small scale until near the turn of the century. But from 1895 to 1905 the egg-drying industry made rapid advances in the United States. A number of plants began operations, and dried eggs were shipped to Alaska and even to China for the use of the United States Army there.

Along about 1915 egg prices, like prices of other products, began to rise sharply as a result of the war in Europe, and this caused a large part of the egg-drying industry to move to China. The difficulties the industry had had with governmental agencies because of unsatisfactory products might also have had some influence on the decision to make a move. In addition, the opening of the Panama Canal aided the growth of Chinese exports of egg products to the United States by permitting cheaper shipping to the Atlantic Seaboard. At any rate, several American firms erected factories in China between 1915 and 1920, including the Amos Bird factory and the National Bakers' Egg Co. The capacity of the plants built in China ranged from 500 to 24,000 pounds of finished product a day.

In the meantime the industry in the United States was in the doldrums. A number of attempts were made to dry eggs from time to time but these efforts were unsuccessful because of unfavorable price relationships between the domestic and imported product. Imports were pouring into the country and in September 1922 a tariff of 18 cents a pound on eggs went into effect. During the next 3 years, partially as

a result of the tariff, imports declined somewhat but they still remained relatively large.

In 1925 the Poultry Producers of Central California Cooperative Association began producing dried eggs, but in the annual report covering operations for the year 1926, the manager stated, "The association has definitely decided that it cannot dry eggs in competition with the imported product."

Civil war conditions in China in 1927 curtailed exports of dried eggs and the domestic industry began to perk up. Two plants began operations in 1927, two more in 1928, and an additional plant drying albumin was established in 1929. The total production of these plants was small, however, until declining egg prices in 1930 and 1931 resulted in a more favorable relationship with Chinese prices, and a tariff increase in July 1931, from 18 cents to 27 cents a pound, caused an even greater expansion in the domestic production of dried albumin and yolk. The domestic production of dried-egg products, expanding as the general business depression deepened, reached a peak in 1933. But that record was exceeded in 1939.

The egg-drying industry in the United States is fairly well established today. The industry itself is small, but most of the firms comprising it represent fairly large-scale enterprises--egg-breaking establishments, cooperative marketing associations, meat packers, and importers. Usually the production of dried-egg products is only incidental to other operations of these firms. A recent survey showed that 18 plants are now in operation, 9 in Texas and others in Illinois, Missouri, Nebraska, Kansas, Oklahoma, Washington, Oregon, and California.

Seven Million Pounds Produced In 1940

About 7 million pounds of dried eggs were produced last year during the normal season that extends from March to July. This year, by increasing the hours the machines are operated and by lengthening the season, the volume of eggs dried could probably be expanded to 50 million pounds without building new plants. It may be necessary, however, to hold some eggs in storage from the peak production months--March, April, and May--until after the first of July.

The program to increase egg production evidently has the cooperation of the Nation's layers, for the biddies are simply outdoing themselves. The number of layers in farm flocks is about 3 percent smaller than last year, but the rate of lay is unusually high, averaging almost 15 eggs per hen during the month of March. The March production of 4,611,000,000 eggs was the largest for the month since 1931, and stocks of shell and frozen eggs combined on April 1 totaled the equivalent of 2,903,000 cases--37 percent larger than a year earlier and a little above average.

This large output of eggs is profitable to producers, too. Under the plan of the Department of Agriculture, the long-term price of eggs will be supported at about 22 cents per dozen (Chicago basis). In determining the approximate monthly prices consideration will be given to normal seasonal variation, differentials as to grade and shipping distances when purchases are made at country points, and to relative prices of feed.

The price supporting program is being accompanied by a plan to make use of all available production facilities. Poultry producers out in the Corn Belt and in some of the Western States have never completely recovered from the drought and they have been falling a little behind in poultry production the last few years. Most of these farmers, however, still have the equipment to expand production above the present level. The Department of Agriculture, while not urging farmers in these areas to build new facilities, would like to see all existing facilities fully utilized. The drying plants can use a lot of eggs.

---0---

REPORT DESCRIBES SUCCESS OF SYRACUSE, N.Y., MARKET

How the Regional Market at Syracuse, N.Y., became an outstanding success after only 3 years of operation is described in the "Annual Report of the Central New York Regional Marketing Authority." The report, issued by the New York State Department of Agriculture and Markets, was prepared by Don D. Ward and H. E. Crouch.

When the market was opened for business, officials estimated that it would be at least 5 years before the project could be considered successful. But now, the report indicates, the market is "on its feet" at the end of 3 full years of operation. For the fiscal year ending March 31, 1940, a net income of \$6,772 was shown.

The million-dollar market consists of three wholesale commission house units with spur tracks and unloading platforms; an administration building, a restaurant, and 7 stores; and a farmers' market with 2 winter sheds. The market is situated on 56 acres of land, about 30 acres of which have been graded and filled. Out-of-State produce, shipped in and trucked in, is handled entirely by the wholesalers and jobbers, but is not permitted on the farmers' market. Produce may come into the farmers' market from anywhere in New York State, however. About \$10,800,-000 worth of produce was handled by the Regional Market in 1939.

The Syracuse market is one of a series of such markets planned by the State in the early twenties. The first was opened at Buffalo in 1931, and the second at Menands--in the Capital District--in 1934. The third was put into operation at Newburgh in 1936. The Syracuse market was opened April 1, 1938.

HAY TAKES A PLACE AMONG THE LEADERS

By E. O. Pollock

Hay, referred to by early agricultural writers as "trash," can no longer be considered a step-child of the farming industry. With a farm value of 715 million dollars, hay was one of the Nation's three leading crops in 1940. It is playing an increasingly important role in the movement to produce livestock and livestock products more economically, and is a prime factor in the agricultural adjustment and soil conservation programs.

In assuming a more prominent place in the agricultural picture during the past 20 years, production has tended to shift from the grass hays to the legumes. In 1919 more than half the tame hay produced in the United States was timothy and clover hays or their mixtures, about a fourth of the crop was alfalfa, and the remainder included grains cut green for hay and other miscellaneous kinds. Ten years later timothy and clover still comprised about half of the total production of tame hay, but the proportion of alfalfa had increased to about a third of the crop. Other legumes, such as lespedeza, sweetclover, soybean, cowpea, and peanut vine hays had also become rather important in some areas during the same period. In 1940 timothy and clover hays comprised less than a third of the United States tame hay crop, while alfalfa and other leguminous hays had increased to well over half of the total production.

A sharp decline in the number of horses and mules and an increase in the number of cattle, particularly milk cows, has contributed to the shift from grass hays to legume hays, the legume hays being more suited to cattle than to horses. In more recent years, a growing awareness that the soil must be conserved has tended to focus interest on the legumes, which help to maintain soil fertility to a greater degree than grass hays.

Production Shifts Eastward and Southward

The shift in areas of production has been almost as pronounced as the shift between the different classes of hay. The important alfalfa area that centered in Colorado, Kansas, and Nebraska a few years ago has moved eastward into the Corn Belt and toward the dairy section of the North Central States. Acreage decreases in the West Central States have been more than offset by the expansion in the alfalfa acreage of Iowa, Illinois, Indiana, Ohio, Michigan, Wisconsin, and Minnesota. Production of hay in Wisconsin, for example, totaled only 2,850,000 tons in 1910, and as late as 1928 hundreds of cars of alfalfa were shipped into this important dairy State from Nebraska and other western areas. But hay production in Wisconsin had increased to 7,600,000 tons by 1940.

Perhaps the most striking example of the shift in the hay crop has been in the South where both acreage and production have more than doubled since 1910. That year production in South Carolina, Georgia, Alabama, Mississippi, Louisiana, Tennessee, and Arkansas was approximately

2,875,000 tons. In 1940 production in these States was over 6,500,000 tons. When cotton prices were high, cotton producers were reluctant to grow hay on the land. But with low prices for their major cash crops, southern farmers have found it uneconomical to feed hay shipped long distances at relatively high freight rates. The incentive to plant soil conserving crops under the programs of the Agricultural Adjustment Administration has been an additional factor tending to expand hay acreage.

In line with other changes taking place in the hay industry, marketing is also in a process of evolution. Terminal hay markets, for example, have become a thing of the past to a large extent. Back in 1920, receipts at Kansas City--one of the largest markets--approximated 46,500 cars. By 1930 receipts at that market had dropped to 16,300 cars, and by 1940 to 1,600 cars. The largest terminal hay market in the United States at present is Los Angeles, where the equivalent of about 18,000 cars of alfalfa hay are received annually.

The largest single factor contributing to the disappearance of terminal hay markets has been the replacement of "hay burners"--horses and mules--by automobiles and tractors. The reduction in the demand for hay in the South also has affected the hay business at terminal markets. Cotton Belt farmers at one time imported from terminal markets thousands of cars of hay originating as far west as Arizona and Colorado and from as far north as Michigan, New York, and even Canada. Receipts of hay at most terminal markets at present are limited to local requirements of stockyards, mixed feed mills, and dairies.

An outstanding development in hay marketing has been the shift from railway transportation to movement by truck. For many years hay often moved as far as a thousand miles by railway, freight costs in some instances exceeding the price farmers received for the hay at shipping points. While truck hauls of as far as 300 miles are not uncommon, most of the hay transported by truck now moves for relatively short distances from farm to farm or from producing sections to nearby consuming areas. In general, the trucker does the merchandising.

U. S. Grades Facilitate Marketing

The shift from rail to truck transportation and the decreasing importance of terminal hay markets have caused a decline in the volume of hay inspected, though the United States grades for hay undoubtedly have done much to facilitate the marketing of this product. The grades are still in use at a number of terminal markets and country shipping points in the surplus hay-producing areas and at all United States Army posts where horses are maintained.

Thirteen States have cooperative hay inspection agreements with the Agricultural Marketing Service, and the inspectors employed by these States are trained and their work supervised by the Service to insure uniformity in the application of the Federal hay standards. Five commer-

cial organizations also have hay inspection agreements with the Agricultural Marketing Service.

United States grades for hay are used by other Government agencies as a basis for hay purchases, approximately 1,400 lots of hay which are tendered on contracts with these agencies being inspected annually in the District of Columbia and nearby points. Hay for Army horses and mules is inspected by officers of the Army Veterinary Corps, who are licensed and whose work is supervised by the Agricultural Marketing Service.

This arrangement grew out of the experience of the World War, when United States grades for hay were not available. Army inspectors were untrained, and, with no organized supervision of the inspection work, large quantities of low-grade hay were accepted. As a result, a big percentage of the purchases were found to be out of condition and were condemned as unfit for feeding purposes. Today, it is very uncommon to find hay on hand at Army posts that does not meet contract specifications. The inspection and supervision organization is also adequate to cope with any emergency that is likely to arise in connection with the defense program.

The Federal hay standards are used as a basis for educational work among producers, shippers, and feeders; and about 3,000 graded type samples of hay are furnished to State agricultural colleges each year for resident teaching and extension purposes. The samples are used by extension workers in the conduct of hay production, marketing, and feeding schools. A large part of the hay used by the Department of Agriculture and the State Experiment Stations in connection with live-stock feeding tests is graded by the Agricultural Marketing Service in order that the results of such tests may be expressed in terms of the quality or grade of the hay. Observation and reports indicate that all of these educational efforts have had a favorable influence on the hay industry in the United States, a marked improvement being noted in the quality of hay produced in many areas of the country.

---0---

BAE REPORT TRACES TRENDS IN MEAT PRODUCTION AND EXPORTS

The level of meat and livestock production during the next several years probably will be higher than it was prior to the drought of 1934, writes Preston Richards in Technical Bulletin No. 764, "Trends in Production and Foreign Trade for Meats and Livestock in the United States," issued by the Bureau of Agricultural Economics. Richards goes on to say, however, that the total output of meats in this country will probably not be much in excess of the supplies that can be sold to a better advantage in domestic markets than in foreign markets. Since 1900 the trend in total meat production has been upward, with most of the increase in pork, lamb, and veal.

INCREASED MILK PRODUCTION URGED TO AID FOOD-FOR-DEFENSE PROGRAM

Secretary of Agriculture Claude R. Wickard said recently that prospective export needs for dairy products, particularly cheese, evaporated milk, and dried skim milk, plus increasing consumer demand for dairy products in this country, made it desirable that milk production in the United States be increased by 6 to 8 percent. Most of the increase, Wickard said, should be made in production areas that have access to milk-evaporating and cheese-making plants.

At the same time, the Department of Agriculture announced that changes in the 1941 Agricultural Conservation Program of the AAA will be made to allow tomato growers full speed ahead in expanding their production. AAA provisions will be amended so that farmers who contribute to the requested expansion will not incur deductions from their farm program payments because of increases made this year in the acreage of tomatoes grown for processing.

Officials of the Agricultural Adjustment Administration pointed out that changes in the program are being made particularly to assist farmers in increasing the production of tomatoes for canning, for which a 50 percent increase has been asked for 1941. The amendments will also apply to corn, peas, and snap beans grown for processing, since the food-for-defense program calls for some increases of these crops.

---0---

INSECTICIDE ACT VIOLATIONS BRING HUNDRED-DOLLAR FINES

A fine of \$100 each was recently imposed by Federal courts against the following manufacturers for violation of the Insecticide Act of 1910:

The De Free Company, Holland, Mich. The action against this firm involved the misbranding of a fungicide called "No-Smut" which was found to be ineffective for the control of certain kinds of smut.

Milton L. Anshel, trading as the Exserco Products Company, Pittsburgh, Pa. The product on which this case was based, "Exserco Perfumed Fly Spray," was ineffective for the control of house flies, moths, and silver fish.

R. S. Altman, trading as the Irwin Chemical Company, Irwin, Pa. Four products were included in this violation: Clor-A Ster, Louse Powder for Poultry and Farm Animals, Altman's Cresol Disinfectant, and Altman's Hypochlorite Solution.

All defendants pleaded nolo contendere.

MARKETING AND NATIONAL DEFENSE PROBLEMS
STUDIED BY FEDERAL AND STATE OFFICIALS

. By J. R. Cavanagh

The increased volume of grading and inspection work growing out of the national defense program came in for major consideration at a meeting of the Atlantic States Division, National Association of Marketing Officials, held at Washington, D. C., April 22 and 23. A discussion of Army buying for cantonments and means by which fruit and vegetable growers could successfully bid was also a highlight of the meeting.

Porter Taylor, of the Surplus Marketing Administration, outlined plans being completed for compiling additional information needed to expedite the large volume of fruits and vegetables expected this year. Discussing prospects, Taylor pointed out that generally better prices can be expected for perishable farm crops this year than in other recent years.

A report by S. R. Newell, of the Agricultural Marketing Service, indicated that problems of inspecting the large quantities of Government-purchased farm products are to be met by special cooperative arrangements with the various States. Mr. Newell said cooperative agreements under which the Department of Agriculture is seeking to arrange for Federal-State inspection of all Federal purchases have been submitted to each of the 48 States. These new agreements are not intended to change existing arrangements as to commercial inspections, but would provide added facilities for handling the large volume of inspections now assured through increased Government buying. Work under the agreements would be supported by inspection fees charged for the services, and would not entail any expenditure of funds appropriated for commercial services now in operation.

Trends in Inspection Work Outlined

W. G. Meal, of the Agricultural Marketing Service, outlined trends in standardization and inspection of fruits and vegetables under present emergency conditions. He stated that the Department of Agriculture is making a determined effort to extend full training to inspectors so that there may be adequate numbers of fully qualified men to take the places of those who are being called for Army service.

Cy Denman, of the National Association of Food Chains, spoke on the contributions of chain stores to State marketing programs. Citing numerous examples of chain store cooperation with grower marketing agencies, Mr. Denman said, "Grocery chains in New England furnish advertising to support growers' markets, and often make their stores available as a sort of school to assist producers in their selling programs."

W. C. Crow, of the Bureau of Agricultural Economics, spoke of the great interest in improving terminal facilities in many markets of the country. He outlined the progress made in Baltimore, Philadelphia,

Hartford, and other cities with special emphasis on the New York situation. Mr. Crow stated that produce is now unloaded at approximately 60 points in New York, for which it is trucked to the market at an annual cartage cost in excess of \$4,000,000. "Much of this cost could be saved by a more adequate terminal arrangement," Crow said.

E. J. Rowell, of the Agricultural Marketing Service, outlined the rapid expansion that has taken place in the broadcasting of market information to consumers. Mr. Rowell, who has had much to do with inaugurating the Federal Food Reporter programs and other broadcasts on fruits and vegetables, said that the type of broadcast now being extended aids in securing a broader distribution of fruits and vegetables during periods of greatest supply, and that it places both producers and consumers in a better bargaining position.

A discussion on Army buying and means by which State marketing agencies could help their growers in successfully bidding for a share of the business was led by Warren W. Oley, of the New Jersey Bureau of Markets. Some States, it was brought out, already have taken steps towards establishing grading and inspection depots at which growers can concentrate their products in large, even-running lots such as will be acceptable to Army depot and post buyers. The State marketing officials are taking steps as well to consolidate information on prospective supplies so that it may be available to Army buying agencies at least 20 to 30 days before the produce will be available for delivery.

Fraser Discusses Grading

Grading of livestock and meat was discussed by W. O. Fraser, of the Agricultural Marketing Service. Urging the wider use of the official grades in the purchase and sale of feeder cattle, Fraser said, "Misrepresentation on the part of sellers is entirely too frequent, and buyers are often reluctant to pay prices commensurate with the actual value of strictly high-grade feeder cattle because of the doubt that they are correctly represented. I believe there is an opportunity to utilize standard classes and grades to a much larger extent than is customarily practiced in the purchase and sale of feeder cattle."

Citing the progress that has been made in identifying the grade of various dairy and poultry products for consumers, Roy C. Potts, of the Agricultural Marketing Service, said: "I feel that we must develop an adequate program of consumer education, and that we must work more diligently toward uniformity and simplicity in procedures, practices, and grade designations for all food products graded and marked by grade for consumers. The unification of grade nomenclature would in itself be a great boost for consumer grade labeling."

F. L. Thomsen of the Bureau of Agricultural Economics reviewed prospects for farm-product prices during the coming months. Dr. Thomsen stated that prices of concentrated foodstuffs will be most affected

by the increased demand, but that no upward spiraling of prices is yet in prospect. According to Thomsen, there is no monetary reason for price inflation, such as occurred during the World War.

N. S. Nichols, of the Tennessee Division of Markets, was elected president of the Atlantic States Division for the coming year, and L. H. Carlisle, of the New Hampshire Division of Markets, was elected secretary.

---0---

PROGRAM SEEKS INCREASE IN 1941 DRY EDIBLE BEAN ACREAGE

A program aimed at a 35 percent expansion in the acreage planted this season to dry edible beans of the white varieties over the 1940 acreage was announced recently by the Department of Agriculture. In order to provide farmers with a definite incentive for increasing their acreage, the Department intends to support the market for the following three types of white beans: Pea and Medium White, Great Northern, and Small White. The operations will be directed at supporting the market for these types on an Eastern Seaboard basis at an average price level of approximately \$5.00 a hundred until about May 1, 1942. Some variation in prices will be necessary to reflect differences in transportation rates from point of purchase, and to allow for differences in grade and supply and price situations that may develop.

---0---

ENGINEERS STUDY EARLY CULTIVATION OF CORN

In 10 years of tests of machinery for cultivating growing corn--carried on in Iowa by the U. S. Department of Agriculture and the Iowa Agricultural Experiment Station--the most "outstanding, and perhaps surprising," result was the "good yields obtained on plots not cultivated until the plants had grown 8 to 10 leaves and stood about 10 inches high." Nevertheless, the engineers still recommend some early cultivation, especially when wet weather might let weeds catch up with the corn.

In only one year, 1935, the engineers reported, were yields reduced significantly by omitting early cultivation. That year the June rainfall was 10.5 inches, more than 6 inches above normal. If conditions are such that weeds can be controlled when the corn reaches a height of 10 inches, there is a good chance that the labor saved on early weed work will be a real gain. In this connection, the engineers say that early cultivation with sweep cultivators may be delayed until the corn is large enough to permit thorough coverage of the weeds in the row. If corn plants are well established while weeds are young, weeds can be killed by the spike-tooth harrow, spring-tooth weeder, and rotary hoe.

MAPLE SIRUP TIME IN MARYLAND

By C. E. Burkhead

The sugar maple section of Maryland is in Garrett County, the extreme western tip of the long arm of the State that reaches over into West Virginia. A large part of the maple trees grow almost in the shadow of Big Savage Mountain--near the Casselman River and its tributaries--and they follow the meanderings of that stream northward for 20 miles until it finally crosses the Pennsylvania line. A smaller, somewhat isolated concentration of groves is in the southern part of the county. A third is near the town of Accident, which owes its odd name to the legend that George Washington once broke some of his surveying instruments in the locality.

Approximately 60,000 mature sugar maple trees and uncounted thousands of young ones are in the Garrett County area. The mature trees are rough-barked, large in diameter, and are real monarchs of the forest, growing well over 100 feet high. About three-fourths of the groves in the area are from 175 to 225 years old. But some of these trees were struggling for a foothold at the same time Captain John Smith and the colonists were trying to find a place in the New World over 300 years ago. Luckily, all succeeded.

Frost is still in the ground and snow is still in the woods when Maryland farmers start out with their buckets to get the "sugar water" that is made into maple sirup and sugar. From one to three tiny holes--sometimes four--are bored an inch or so into each tree, and metal spouts are pushed into the holes. A keeler or bucket is hung on each spout. During colonial days, the trees were tapped with an axe and the "water" was gathered by hand in wooden buckets carried on a yoke, a wooden frame carved to fit the shoulder.

Sugar Stored in Trees

The "sugar water," which looks like real water with a faint, sweet, maple-flavored taste, is really not sap at all. During the summer months the leaves, by the process of photosynthesis, manufacture sugar for tree growth, part of which is stored in the roots and body of the tree for future use. Early in the spring, osmosis forces moisture through the roots toward the top of the tree and with this moisture goes some of the stored sugar in solution. During the maple sirup season no tree growth whatever is noticeable. But when the real sap begins to rise, the buds appear and maple sugar producers know that the season is at an end.

These Garrett County sugar maple trees are quite temperamental--even moody. The weather must be just right. In the spring or late winter, a series of alternating cold nights and sunny days is necessary for a good run of "water." People of the region say that no "water" will run during a strong east wind, though nobody knows why. Moderate

winds from other directions are not favorable either, but they do not affect the trees as much as an east wind.

The best runs are obtained after the trees have been thoroughly chilled during the previous night. Ideal temperatures should range from about 20 degrees at night to about 60 degrees during the day. Even when conditions are favorable, the "water" seldom runs fast enough to form a steady stream; it comes out of the tiny spouts in a regular drip-drip fashion.

The "sugar water" contains very little sugar--a little over 2 percent--and it must be concentrated by boiling. This is done in shallow evaporating pans over a coal or wood fire, though coal is mostly used. It takes about 45 gallons of "sugar water" to make one gallon of sirup so considerable boiling down is required. When boiling is going on, the sugar camp from a distance looks as if it were on fire; but the so-called "smoke" coming through the roof is nothing more than escaping steam from the evaporating pans. Producers boil the sirup to a certain specific gravity and then drain it off into cans or drums.

A gallon of maple sirup weighs 11 pounds, and, after further evaporation, will make 7 or 8 pounds of sugar. Two types of maple sugar are made--bar and granulated--though most producers make only the sirup.

Sirup Sold to Out-of-State Firms

Vermont, Pennsylvania, and New York firms buy most of the maple sirup produced in Maryland that is sold in wholesale lots. Maple sirup sold at wholesale is marketed mostly by the pound, and according to grade. Some sirup is marketed locally in half-gallon and gallon cans, however.

The maple sirup season in Garrett County usually starts in late February, and is generally over by April 15. This year, however, tapping did not begin generally until about the last week of March and was over by the middle of April, resulting in one of the shortest seasons of record. The nights were not cold and the days were too hot, and this caused intermittent runs during a period when production is usually at a peak. Quality of the sirup this year was excellent, nevertheless.

Maple sirup and sugar production in Maryland reached a peak about 1910 and since that time has been gradually decreasing. Production of sirup totaled 24,000 gallons in 1940, compared with 25,000 gallons in 1939, and the 1929-38 average of 23,000 gallons. Sugar output in 1940 totaled 9,000 pounds, compared with 10,000 pounds in 1939, and the 1929-38 average of 20,000 pounds. Maryland production, in any event, is only a drop in the Nation's maple sirup and sugar bucket. Vermont, New York, and Ohio lead in maple sirup and sugar production with Maryland pulling up in tenth place.

The way it looks right now, Maryland has little chance to improve its ranking position. After the maple sirup season is over most producers turn their livestock into the groves, and maple leaves to livestock are what lollypops are to little boys. When the wind blows a maple limb from a tree, cattle at once rally around and have a feast. Small shoots or seedlings, of course, never have a chance and the stock of maple trees is on a distinct downward trend.

Many of the young trees are being cut for mine props, and wood from the old trees is used in making ladies' shoe heels, floorings, and furniture. The finer parts of the timber are sometimes used in the manufacture of certain kinds of musical instruments. When some of the old trees are cut--those 2 and 3 feet in diameter--marks of former tapping may be found a foot or so in toward the center of the tree.

Some of the groves are nothing but maples, being kept clean of underbrush and other kinds of trees. In the summer the maples put on an umbrella of rich green leaves. As autumn approaches the leaves change to a golden yellow, then, with the first breath of frost, to a patriotic red. In winter the trees present only a dark overcoat of thick, shaggy bark. The groves are handed down from one generation to another much the same as prized pieces of silver, and today there are a number of producers in the county bearing the names of pioneers, indicating that some of the groves have been in the same family for 150 to 175 years and possibly have been tapped for that length of time.

Maple producers in the picturesque Garret County region are friendly folks. They like to show off their groves, their camps, and their producing processes. To tourists who stray from the well-beaten paths into the sugar maple country they offer a substantial sample of their product. But visitors must hurry. It looks now as if it will not be many years until Maryland's maple products industry will be little more than a memory.

---0---

MIDDLEMAN'S PROFITS DEFENDED

BY "AGRICULTURAL SITUATION"

The middleman is performing a difficult and essential task that requires labor, equipment, and materials, writes R. O. Been in the April issue of the "Agricultural Situation." Been says that numerous investigations have demonstrated that as a rule the net profits of the typical middleman are not excessive. While a few firms may be obtaining large profits, others operate at a loss. On many food products the net profit (including returns to capital) of all marketing agencies combined does not exceed 5 cents of the consumer's dollar. The average net profit on all farm products is probably not more than 10 percent of the retail price. Direct labor costs are the dominating single expense item in marketing farm products, Been points out.

ON THE MARKETING FRONT

The following items have been issued recently by Federal agencies. They are presented here in view of their relation to the broad field of farm-product marketing.

--Editor

VEGETABLE SEED ACREAGE

LARGER THAN LAST YEAR

More vegetable seeds of nearly all kinds are expected to be harvested this year, a recent survey of the Agricultural Marketing Service covering 50 kinds indicates. The principal increases in acreage over last year, by the percentages indicated in parentheses, are as follows: Kale (730), mangelwurzel (578), cauliflower (527), leeks (450), spinach (405), mustard (379), broccoli (309), cabbage (204), Swiss chard (166), and dill (136). Increases in production are most marked for: Mangelwurzel (1231), leeks (1088), spinach (799), mustard (587), cabbage (536), kale (412), eggplant (239), cucumbers (186), Swiss chard (178), and non-sweetcorn (175). Decreases in production are indicated only for salsify, lima beans, and parsnips.

---0---

NATION'S GRAIN STORAGE CAPACITY

REPORTED AT 1,505,943,000 BUSHEL

Almost complete returns on a Nation-wide survey show the total rated storage capacity for grain, beans, and flaxseed as of March 1 was 1,505,943,000 bushels. When all returns are in it is estimated that this capacity will be increased by about 3 percent, and new construction either under way or planned as of March 1 would add 70,754,000 bushels of storage space.

Bulk storage capacity reported was 1,173,776,000 bushels; sacked storage, 317,976,000 bushels; and crib storage, 14,191,000 bushels.

The survey covered all commercial storage facilities, including idle plants that could readily be placed in operation, but it did not include farm storage nor the 136,000,000 bushels of storage represented by steel bins owned by the Commodity Credit Corporation on March 1.

Officials said that the storage situation is not serious from the standpoint of the United States as a whole, but a shortage of space for handling the 1941 winter wheat crop does exist in some areas. Steps are under way at the present time to shift grain under the control of the Commodity Credit Corporation to eastern points where ample storage is available. There is still time to correct a storage shortage in North Dakota before harvest of spring wheat begins.

